IT Project Evaluation

State of Iowa - Return on Investment Program / IT Project Evaluation

SECTION 1: PROPOSAL

Tracking Number (For Project Office Use)

Project Name: Electronic Vital Records Date: 7/14/00

Agency Point of Contact for Project: Greg Fay, Information Managagement

Agency Point of Contact Phone Number / E-mail: 1-6601 /gfay@idph.state.ia.us

Executive Sponsor (Agency Director or Designee) Signature:

_____

Is this project necessary for compliance with a Federal standard, initiative, or statute? (If "Yes," cite specific requirement, attach copy of requirement, and explain in Proposal Summary)	❑ Yes	X No
Is this project required by State statute? (If "Yes," explain in Proposal Summary)	X Yes	❑ No
Does this project meet a health, safety or security requirement? (If "Yes," explain in Proposal Summary)	X Yes	❑ No
Is this project necessary for compliance with an enterprise technology standard? (If "Yes," explain in Proposal Summary)	X Yes	❑ No
Does this project contribute to meeting a strategic goal of government? (If "Yes," explain in Proposal Summary)	X Yes	❑ No
Is this a "research and development" project? (If "Yes," explain in Proposal Summary)	❑ Yes	X No

Proposal Summary

The Iowa Department of Public Health (IDPH) proposes to convert all existing vital records documents to digital images for the purposes of storing the information, enabling on-line searches and verifications by authorized individuals, and direct printing of certified copies. IDPH is requesting funds from the Pooled Technology Account to accomplish this conversion. Digital imaging of the records is a facilitating technological step to full electronic business in the vital records bureau.

1. The IDPH, Bureau of Vital Records, has the statutory responsibility for maintaining the legal documents for the recording of births, deaths, fetal deaths, and marriages, and receives for statistical purposes records on the dissolution of marriages. The bureau also has the responsibility of producing certified copies of these records for individuals, the courts, the U.S. government, and other state agencies, and others. Records are also used by genealogists and researchers. The bureau will typically receive between 400 and 500 requests for documents each day, for an annual volume of approximately 117,000 requests. This translates into more than one record per request, however, as some requests involve searching for and producing multiple records. The department also anticipates that, as the birth cohorts from 1946 to 1960 reach retirement age, the volume of requests, particularly for birth certificates, will increase substantially.

IDPH has been responsible for storing and producing these records since the 1880s. The current volume of historical records is approximately 10,000,000, with 100,000 new records generated annually. The state copies of vital records are not considered public documents, and code requires security of the records. In addition, the birth and death records are considered to be the definitive legal records, and, as such, preservation of these records is critical to citizens.

Currently, vital records are on microfilm. When a request for a document is received, a search of the indexes locates the document on the appropriate reel and blip, the document is found, and then copies are made on a copier using the appropriate paper. Until recent modernization of processes occurred, a search and production of document could take up to 6 weeks.

The 1993 Iowa Acts, Chapter 55, section 1, as continued through the 2000 Iowa Acts, authorizes the IDPH to modernize the vital records process. IDPH is developing software to allow for the electronic submission of current records so that future records will be stored electronically. However, that does not solve the problem of the historical records, nor improve the process for using those records in the business practice of vital records.

The modernization of the index search has been completed; the indexes have been loaded into a database and the search for the reel and blip location is done using PCs. The remainder of the process, however, still requires manual processes to locate the record on microfilm and produce the certified copy.

After the proposed project has been completed, all records stored as digital images, and the search and printing function fully computerized, the search, retrieval and print process can be accomplished in essentially one on-line step. The search criteria will be entered, the document located in the database, visually verified, and printed.

2. There are several tangible and intangible benefits to creating digital images of vital records. Having all vital records available electronically through digital imaging will provide on-line access to authorized individuals will allow for significant business process improvement. The process improvement will reduce the time required to search, print and mail records from 2 weeks to 24 hours for routine requests, and same-visit service for window business. This will significantly improve customer service. It will also result in improved productivity for state staff and reduce the need to hire temporary staff to assist in reducing backlogs. It will also reduce the need for some customers to pay for special delivery of documents or to drive to the Lucas Building for expedited delivery.

Converting the microfilmed records to digital images will also improve the security of the records from unauthorized viewing, and protect the records from environmental risk. As these records are the primary and often sole legal evidence of vital life events, it is critical that they be maintained in the most secure and safe environment technologically available.

The improved storage and retrieval process will assist in future vital records modernization efforts by creating the systems and architecture to coordinate with other electronic efforts, especially the ability to receive court records such as dissolutions and legal name changes electronically.

3. The project stakeholders are citizens who experienced a vital event in Iowa and their families, IDPH employees, the employees of other state agencies, the federal government, private business, and others who may have a need for certified copies of records. Having all records digitally available will improve business processes in the immediate future, and will position the department to be able to capitalize on future technology ventures within state government.

Section 2 - Project Plan

1. Agency Information

Executive Sponsor

Greg Fay, Chief of the Bureau of Information Management, is the sponsor of the project. He directly supervises the staff who will provide the support and development tasks to this project. He is also responsible for assuring the acquisition of hardware for the department, selecting technology contractors when necessary, and overseeing all information management and technology for the Iowa Department of Public Health.

Organization Skills

The IDPH intends to contract with Digital Data Resources (DDR), Inc. to provide the digital imaging and index creation. DDR has an existing contract with the State of Iowa to provide this service. The company has demonstrated the ability to provide the service within the required parameters.

The additional skills needed are available with the Bureau of Information Management. The bureau has a DBA who is responsible for the creation and maintenance of the database. The network requirements and programming skills to complete the interface for viewing and printing the records are also available within the bureau. A staff project manager will be used to manage the project, including managing

the contractor, assuring deliveries, tracking progress, and monitoring expenditures against budget.

2. Project Information

Goals

Goal 1 – Assure the most efficient response time for the processing of requests for vital record document production.

Goal 2 – Assure the most secure method of storing and preserving legal evidence of vital events as required by Iowa Code.

A. Expectations

IDPH expects that the digital imaging of the 10,000,000 historical records will significantly reduce the time it takes to locate a record and create the appropriate copy of the record. Before any modernization of the process occurred, the average wait for a record was 5 – 6 weeks. If an expedited return were required, staff would have to work overtime and charge the customer for special delivery mail services. With the computerization of the index search completed, the time has been reduced. But pulling microfilm, locating the record and copying is still slowing the process down. With the imaged records, the process can be reduced to one continuous on-line process for most requests, reducing the time to 24 hours from receipt of the request to mailing the certificate. IDPH intends for this project to meet Enterprise strategic goals of making government processes more customer-focussed.

IDPH also believes that digital images will be more secure than microfilm, both from the possibility of unauthorized viewing of records and from environmental damage. The data will be stored on a server that is secure, and the access to the application is protected. Environmental threats, such as water damage and aging, will also be reduced.

B. Measures

Production of birth and death certificates is one of the most visible customer services within IDPH. The security of these records is essential to protect citizens from unlawful use of identify and fraud. Therefore, IDPH strongly supports the improvement of both security and processes surrounding vital record production for our customers.

Outcome Measure – Average time to process a request for document production from receipt to mailing.

Process Measure - % of records successfully imaged.

Process Measure - % of searches that are “correct” with the first search.

C. Environment

The staff of the Bureau of Vital Records have provided significant input into the steps necessary to modernize the processes used. Citizens have continually provided feedback on their expectations for ease and timeliness of receiving certified copies of birth and death records.

Other state agencies are using digital imaging for historical paper documents as a more appropriate storage and retrieval system than microfilm. IDPH proposes to use the

same State of Iowa contract and vendor to reduce the overhead of contract selection and administration.

D. Project Management

A project manager will be assigned. The project manager's responsibility will be to develop the detailed scope of project, project requirements, deliverables and schedule, timelines, testing criteria, and acceptance protocol. A detailed plan will be used to monitor progress on a regular basis. The project manager will assure regular communication with the vendor, coordinate staff duties in relation to the project, monitor expenditures, and communicate regularly with the Executive Sponsor.

This model for project management and risk mitigation has been used by the Information Management Bureau at IDPH successfully in the past, and is being used currently for several software development projects.

E. Security/Data Integrity

The digital images will be stored on a department server that is accessible only through the IDPH Intranet. Security for that server is assured using the latest network security standards. Access to the application and database is secured using password verification procedures and is limited to authorized personnel only.

3. Current Technology Environment

A. Software

Searches of the birth and death indexes are done with software developed in-house using Frontpage, Interdev, and SQL. Searches of marriage, dissolution, and fetal death indexes are done manually on microfiche.

Records are on microfilm, and are located and copied manually.

B. Hardware

The birth and death indexes are located on a Compaq 6400R. Staff use Compaq EN series desktop personal computers for entering search criteria. The microfilm readers are 3 years old.

4. Proposed Environment

A. Software

The current software functionality will be expanded to encompass the index search, locating the record image, viewing the image for verification, and printing. The development tools will be essentially the same. The database will be developed to meet current Enterprise standards for technology.

B. Hardware

The IDPH currently stores 10,000,000 records, with approximately 100,000 added each year. In order to store and retrieve that many images, the hardware proposed for this project follows: 4200 Dual channel Array Controller; 4254 RM U2 Storage works enclosures, and 9.1GB 10K hard drives.

Where applicable, IDPH will adhere to currently approved Enterprise technology standards.

Project Schedule

Task Name	Duration	Start	Finish	Predecessor	Resource
Digital Imaging	217d	Tue 08/01/00	Wed 05/30/01		Project manager
Sign agreement with DDR, Inc	1d	Tue 08/01/00	Tue 08/01/00		Greg Fay, DDR
Perform test of imaging	30d	Wed 08/02/00	Tue 09/12/00	2	DDR
Create test script	2d	Tue 08/01/00	Wed 08/02/00		Project manager
Create screen for viewing image	7d	Tue 08/01/00	Wed 08/09/00		ITS 5
Database	14d	Wed 08/02/00	Mon 08/21/00		DBA
Stored procedures	4d	Tue 08/22/00	Fri 08/25/00	6	DBA
Triggers	4d	Mon 08/28/00	Thu 08/31/00	7	DBA
Test image quality	1d	Wed 09/13/00	Wed 09/13/00	3	IDPH staff
Establish imaging schedule	2d	Thu 09/14/00	Fri 09/15/00	9	Project manager, DDR
Imaging of birth records	60d	Mon 09/18/00	Fri 12/08/00	10	DDR
Load, test images	60d	Mon 09/18/00	Fri 12/08/00	10	DBA
Imaging of death records	60d	Mon 12/11/00	Fri 03/02/01	12	DDR
Load, test images	60d	Mon 12/11/00	Fri 03/02/01	12	DBA
Imaging marriage, dissolutions	60d	Mon 03/05/01	Fri 05/25/01	13	DDR
Load, test images	60d	Mon 03/05/01	Fri 05/25/01	13	DBA
Program print functions	14d	Thu 08/10/00	Tue 08/29/00	5	ITS 5
Test print functions	2d	Wed 08/30/00	Thu 08/31/00	17	IDPH staff
Implement process, births	3d	Mon 12/11/00	Wed 12/13/00	12	IDPH staff
Implement process, deaths	3d	Mon 03/05/01	Wed 03/07/01	14	IDPH staff
Implement process, remainder	3d	Mon 05/28/01	Wed 05/30/01	16	IDPH staff

SECTION 3: Return On Investment (ROI) Financial Analysis

Project Budget:

Provide the estimated project cost by expense category.

Personnel.....$_____7,500__
Software.....$_____
Hardware .....$_____66,000 __
Training.....$_____
Facilities.....$_____
Professional Services .....$____800,000___
Supplies .....$_____
Other (Specify)…….……$_____
Total.....$____873,500__

IDPH is requesting $873,500 in order to fully implement on-line record searches. Partial implementation ($500,000) would result in having two separate business processes in place; response time to requests would then be dependent upon which type or year of record being requested, creating a differential treatment of citizens based upon potentially arbitrary criteria. Partial implementation would also significantly reduce the savings anticipated.

Project Funding:

Provide the estimated project cost by funding source.

State Funds .....$__873,500_____ .....__100____ % of total cost
Federal Funds .....$_____ .....____ % of total cost
Local Gov. Funds .....$_____ .....____ % of total cost

Private Funds.....$_____ .....____ % of total cost
Other Funds (Specify) .....$_____ .....____ % of total cost
Total Cost: .....$_____ .....____ % of total cost

How much of the cost would be incurred by your agency from normal operating budgets (staff, equipment, etc.)? .....$____0_____ __0__%

How much of the cost would be paid by "requested IT project funding"? .....$_873,500___ _100%

Provide the estimated project cost by fiscal year:

FY__2001_$__873,500_____

FY_____$_____

FY_____$_____

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ROI Financial Worksheet

Annual Pre-Project Cost - How You Perform The Function(s) Now		
FTE Cost (salary plus benefits):	**650,621**	
Support Cost (i.e. office supplies, telephone, pagers, travel, etc.):	**213,330**	
Other Cost (expense items other than FTEs & support costs, i.e. indirect costs if applicable, etc.):	**223,885**	
A. Total Annual Pre-Project Cost:	**1,087,836**	
Annual Post-Project Cost – How You Propose to Perform the Function(s)		
FTE Cost:	**600,000**	**Reduce FTEs**
Support Cost (i.e. office supplies, telephone, pagers, travel, etc.):	**182,947**	**Reduction in supplies, equipment maintenance costs, etc.**
Other Cost (expense items other than FTEs & support costs, i.e. indirect costs if applicable, etc.):	**117,943**	**Reduction in hourly wages, data entry contract costs, etc.**
B. Total Annual Post-Project Cost:	**900,890**	
State Government Benefit (= A-B):	**186,946**	
Annual Benefit Summary		
State Government Benefit:	**186,946**	
Citizen Benefit (including quantifiable "hidden taxes"):	**150,000**	**Estimated reduction in special mailing costs, trips to state, etc. (see below)**
Opportunity Value and Risk/Loss Avoidance Benefit:	**250,000**	**Additional temp costs that would be incurred as the 1946 + birth cohort reaches retirement age (see below)**
C. Total Annual Project Benefit:	**586,946**	
D. Total Annual Project Cost:	**174,700**	**Based upon 5-years**
Benefit / Cost Ratio (C / D):	**3.36**	

ROI (C – D / Project Funds Requested):	47%
❑ Benefits Not Cost Related or Quantifiable (including non-quantifiable "hidden taxes")	

The intangible benefits are mainly in improved customer service. Except in cases of emergency, citizens can typically expect to wait several weeks to receive a requested certified copy of a birth or death. With a 24-hour turn-around, citizens will receive service more promptly, improving customer relations. There are also benefits that we are not in a position to quantify related to other business processes for citizens that rely on vital records, such a insurance applications and payments.

It is also very difficult to quantify the impact of improved security for the records. The State has been very fortunate that there has not been a large-scale loss of historical records. The re-creation of these records from other, incomplete sources would be extremely difficult, and fraught with record integrity issues.

The creation of electronic records in the future will not solve the issue of 10,000,000 historical records that currently exist only as paper or microfilm images. The capability of responding to as many requests as possible with the same level of service is also a benefit that cannot be calculated directly.

Estimate of citizen cost benefit.

Window requests – 13,000/yr
Normal business (90%) – 11,700
Elimination of second trip to pick up record
(average trip 25 miles/$ .29/mile $84,825

Special mailing requests
10% of 117,000 – 11,700
Average cost - $10/overnight delivery
55% reduction in need – 6,517 requests $65,170

Additional cost benefits to citizens for time lost were not estimated due to the difficulty of assigning an appropriate dollar amount per hour. However, this does not abrogate the consideration of such hidden costs to the individual.

Estimate of Opportunity Value and Risk Avoidance.

The costs for digital imaging could increase in the future from the current contract. A $ .02 increase for 10,000,000 records would mean $20,000. IDPH currently spends about $113,000/year for temporary employees to keep the backlog at 6 weeks. To reduce that time to 48 hours would require doubling the number of temps, and going to 24 hours would not be possible with current equipment. Those costs will only increase as the demand for birth records increases in the next 2 to 5 years as the 1946 birth cohort prepares for retirement.